

Spiders In and Around the House

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Many people are afraid of spiders. This fear is partly due to myths and to the notoriety of harmful species such as the brown recluse spider (see HYG-2061) and the black widow spider (see HYG-2061A). Several species of sac spiders (clubionids) are suspected of being responsible for most spider bites, especially ones occurring indoors (see HYG-2060A). Sac spider venom is cytotoxic, causing tissues at the bite site to die. However, the vast majority of spiders are harmless to humans.

Although spiders are often unpopular, the venom of most species is not very toxic to humans, usually resulting in no more than a slight swelling, inflammation, or itching sensation. Most spiders' fangs are too small or weak to puncture human skin. Spiders usually will not attempt to bite unless accidentally trapped against the skin or grasped, although some species actively guard their egg sacs or young.

Spiders are beneficial predators that reduce pest populations (flies, crickets, mites, etc.) in and around homes, yards, gardens, and crops. Wholesale destruction of spiders should be avoided.

For more information on spiders, particularly those that occur in Ohio, refer to <http://www.marion.ohio-state.edu/spiderweb/ohiospiders.htm>.

Identification

Spiders have eight legs (four pairs). They have two body regions: a cephalothorax (fused head and thorax) and an abdomen, which are joined together by a narrow waist. Most spiders have six or eight simple eyes in various arrangements. All have a pair of jaw-like structures, the chelicerae, each of which ends in a hollow fang through which venom can be ejected. The tip of the abdomen has a group of small fingerlike spinnerets that produce silk. Young spiders (spiderlings) resemble adults except for their smaller size and coloration.

Life Cycle and Habits

Spiders lay eggs within a silken egg sac that is often ball-shaped and either hidden in a web, affixed to a surface, or carried

Class: Arachnida	
Order: Araneae	
Common Name	Family
Cobweb Spiders	Theridiidae
Orb Weaver Spiders	Araneidae
Funnel Web Spiders	Agelenidae
Cellar Spiders	Pholcidae
Wolf Spiders	Lycosidae
Jumping Spiders	Salticidae
Nursery Web Spiders	Pisauridae
Crab Spiders	Thomisidae

by the female. Spiders may produce several egg sacs, each containing up to several hundred eggs. A spider grows by shedding its skin (molting), usually four to twelve times before maturity. In many species, the mature male often wanders about in search of a mate. Some species of spiders may live for years, but most spiders only survive for one season.

All spiders produce silk, which is secreted as a liquid through the spinnerets and hardens on air contact. Spiders use silk for a variety of purposes, such as making egg sacs, capturing prey, holding prey, making shelters or retreats, and transferring sperm during mating. Also, spiderlings extrude silk threads that enable them to be transported by air currents, a process called "ballooning."

Spiders are predators that typically feed on living prey. They produce venom that is poisonous to their normal prey of insects, mites, and other small arthropods. Venom is injected through the hollow fangs to immobilize the prey and begin the digestion process. Spiders can only ingest liquids, so they either inject or regurgitate digestive fluids into the prey. They then suck in the digested liquid food.

Spiders use a variety of tactics to capture prey. Some species are web builders that use webbing to ensnare their prey. Others

are active hunters that actively search for their prey. Passive hunters are spiders that lay in wait for their prey rather than searching for it.

Spiders Commonly Associated with Structures

Web Builders

Many spiders use webbing to ensnare their prey. Their web designs vary and may or may not be elaborate. Web-builder spiders discussed here include cobweb spiders, orb weaver spiders, cellar spiders, and funnel web spiders.

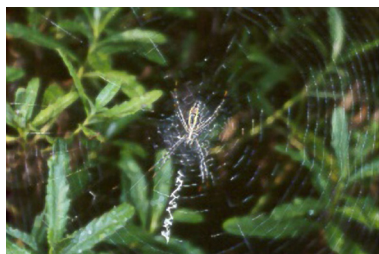
Cobweb Spiders

The web building habits of cobweb spiders contribute to their pest status. These spiders typically construct an irregular web in sheltered sites indoors or outdoors. The outer sticky threads of the web entangle insect prey. These spiders often are inconspicuous, although their web is not. Some species construct a retreat within the web and hide therein during the day, and the spider hangs upside down in the center of the web at night.

Cobweb spiders, including widow spiders, belong to the family Theridiidae and have a rounded globular abdomen (black widow spider shape). One member of this family, the common house spider (*Achaearanea tepidariorum*) is about 1/3 inch long (female), gray to brown, and its spherical abdomen has several dark stripes near the tip. The common house spider requires high humidity and plentiful prey; it typically occurs in damp basements, cellars, crawl spaces, and outbuildings. This species frequently abandons webs that do not yield prey, and then constructs new ones until it finds a productive site. Webs become dust covered when abandoned.

Orb Weaver Spiders

Orb weaver spiders construct the familiar circular, flat, elaborate web in which flying insects are trapped. Each species of orb weaver typically constructs a web with a distinctive design. Webs usually occur outdoors. These spiders have poor vision and locate their prey by feeling the vibration and tension of the threads in their web. They use silk to wrap the victim.



Many species of orb weaver spiders are large (approximately 1 inch), but others are quite small

(approximately 0.1 inch). Some have oddly shaped abdomens (pointed spurs, conical tubercles, etc.). Some are very brightly colored. One common spider, known as the yellow garden spider (*Argiope aurantia*), has silver hairs on the back of the cephalothorax and a large abdomen marked in black and bright yellow or orange. This spider is about 1 inch long and hangs head down in the center of the web, which is found in brambles, bushes, tall grasses, etc. in open sunny places.

Despite their formidable appearance, orb weaver spiders are not considered dangerous. Some species can bite if handled.

Cellar Spiders

Cellar spiders are frequently found in dark, damp places such as cellars, basements, crawlspaces, and outbuildings. They typically construct a loose, irregular-shaped web in a dark corner.



Cellar spiders continually add to their web, which can result in extensive webbing. The male and female live together in a web and can be found hanging upside down in it. They shake the web violently when alarmed. Cellar spiders can quickly establish large populations in a structure.

Cellar spiders have very long, slender legs (up to 2 inches long). Their body is about 1/3 inch long and pale colored (whitish-yellow to gray). They are sometimes confused with daddy-long-legs (see HYG-2060B-04).

Funnel Web Spiders

Funnel web spiders construct large, flat, horizontal webs of nonsticky silk. The web contains a funnel at one end that serves as the spider's retreat. The funnel is open at both ends so the spider



can readily escape. The spider hides at the narrow end of the funnel; when it feels the vibration of an insect crossing the web, it dashes out, bites the insect, then carries it back to the funnel. In former times, the silk of funnel

web spiders was used to cover wounds to stop bleeding.

Funnel web spiders generally are brown and somewhat large ($\geq 1/2$ inch long). Some species have banded legs. Some species have long spinnerets that extend out beneath the rear of the abdomen.

In the family Agelenidae, some species of *Agelenopsis* (grass spiders) and nonnative *Tegenaria* (house spiders) will infest structures, but their webs typically are confined to the lower levels. The hobo spider, *Tegenaria agrestis*, was introduced from Europe and is found in parts of the Pacific Northwest. The

hobo spider is known to bite humans, and its venom has similar effects to that of the brown recluse spider. Hobo spider bites are probably from the males, which wander in search of female mates. The bites of other funnel web spiders are not known to be very toxic to humans.

Active Hunters

Some spiders actively search for their prey. Any webs that they construct are used as resting areas. These spiders are commonly encountered when they venture from their retreat to search for prey. Spiders discussed herein that actively hunt include wolf spiders, jumping spiders, and nursery web spiders.

Wolf Spiders

These hunting spiders are fast runners that will chase their prey. Wolf spiders are hairy and often large, up to 1-3/8 inches long, sometimes confused with tarantulas. Their legs are long and spiny. Many are dark brown.



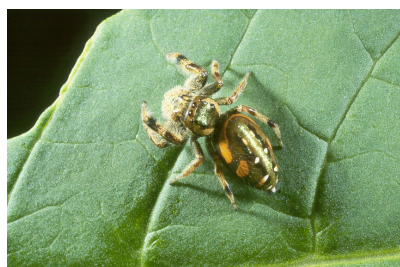
Wolf spiders may hunt day and night. They usually occur outdoors, but may wander indoors in search of prey. They tend to stay at or near floor level. They typically construct web retreats in sheltered sites.

Females carry their large, globular egg sac attached to spinnerets under the abdomen. Upon hatching, the spiderlings climb onto their mother's back and stay there several days or more before dispersing.

Wolf spiders frequently alarm homeowners because of their large size and rapid movements. Wolf spiders are not aggressive, but may bite if handled.

Jumping Spiders

These spiders are so named because of their jumping ability. They can jump many times their own length. They make quick, sudden jumps to capture prey or avoid a threat. They also can walk backward.



These common spiders are about 1/8 – 3/4 inches long, very hairy, stocky built, and short-legged. Two of their eight eyes are very large. They have the keenest vision of all spiders. Many species have patches of brightly

colored or iridescent scales. Some are black with spots of orange or red on the upper surface of the abdomen, at times confused with black widow spiders.

Jumping spiders are active during the day and prefer sunshine. They normally live outdoors, but jumping spiders can become established indoors and their hunting activities often center about windows and entry doors where their prey is most common.

Nursery Web Spiders

These spiders attract much attention due to their large size as they can have a leg span of 3 inches. Many are earth tone colored.



Nursery web spiders typically live near lakes and streams, but occasionally are found indoors in moist areas. Many can run over the surface of water and, if chased, dive and stay submerged for some time. They hunt day and night for aquatic insects

and even small fish. They are sometimes commonly called fish-in spiders.

The sole use of their silk webbing is for the egg sac. The female uses her mouthparts to carry the egg sac under her body until the spiderlings are ready to emerge. She then fastens the egg sac to some leaves and encloses it within a “nursery” web, where the spiderlings remain until they are ready to disperse. The female stands guard near the nursery web to protect her young.

Passive Hunters

Passive hunters are spiders that lay in wait for their prey rather than searching for it. When their prey approaches, they may jump or pounce to seize it. Crab spiders are the only passive hunters discussed here, although tarantulas and many other spiders employ this technique to obtain food.

Crab Spiders

These spiders have a flattened body and hold their legs at right angles to their sides, presenting a crablike appearance. They can walk forward, backward, or sideways.



Many crab spiders have horns or ornaments on the cephalothorax or abdomen, and some mimic bird droppings. Those that inhabit trees or hunt on the ground are usually colored with shades of gray, brown, or black, while those that frequent flowers are bright red, yellow, orange, white, and/or green.

Spider Relatives

The class Arachnida includes spiders and some other arthropods that are closely related to them. Close relatives of spiders are found in 10 orders and include scorpions, pseudoscorpions, mites, ticks, and daddy-long-legs (also called harvestmen). Daddy-long-legs are very commonly confused with spiders due to their general appearance and eight legs, but these tan to brown creatures belong to the order Opiliones and are not spiders (see HYG-2060B, “daddy-long-legs”).

Control Measures

Control of spiders is best achieved by following an integrated pest management (IPM) approach that involves multiple tactics, such as preventive measures, exclusion, sanitation, and chemicals applied to targeted sites. IPM requires a thorough inspection of the building to locate the pest and its harborages. An inspection should be done at night if the species is nocturnal.

An important first step is to correctly identify the spider, as this determines which management tactics to adopt that take into account specific biology and habits. For example, if the spider is a web builder, control efforts should target its web because that is where this spider spends most of its time. On the other hand, active hunters are spiders that move about widely, and some species are most likely to contact insecticide-treated surfaces at ground level.

Within each of the following categories, particular tactics may be more or less applicable, depending on the species of spider:

Preventing spider bites

- Shake out clothing and shoes before getting dressed.
- Inspect bedding and towels before use.
- Wear gloves when handling firewood, lumber, and rocks (be sure to inspect the gloves for spiders before putting them on).
- Remove bedskirts. Move the bed away from the wall.
- Don't store boxes and other items underneath beds.
- Exercise care when handling cardboard boxes (some spiders may inhabit the space under folded cardboard flaps).

Exclusion

- Install tight-fitting screens on windows and doors; also install weather stripping and door sweeps.
- Seal or caulk cracks and crevices where spiders can enter the house.
- Equip vents in soffits, foundations, and roof gables with tight-fitting screens.
- Install yellow or sodium vapor light bulbs outdoors since these attract fewer insects for spiders to feed upon.

- Many web-making spiders set up residence near lights that remain on at night. Locate such lights away from the house or turn them off when not needed.
- Tape the edges of cardboard boxes to prevent spider entry.
- Use plastic bags (sealed) to store loose items in the garage, basement, and attic.

Sanitation

- Remove trash, old boxes, old clothing, wood piles, rock piles, and other unwanted items.
- Eliminate clutter in closets, basements, attics, garages, and outbuildings.
- Store items off the floor and away from walls in basements, crawl spaces, attics, garages, and outbuildings in order to reduce spider harborage sites.
- Eliminate household pests (prey) such as flies, ants, and cockroaches that attract spiders.
- Do not stack wood against the house.
- Remove heavy vegetation and leaf litter around the foundation.
- Wash spider webs off the outside of the house using a high-pressure hose.

Non-chemical control

- Capture the spider and release it outdoors. An effective technique for capturing hunting spiders is to place a cup over the spider and then slide a piece of paper underneath to entrap it.
- Dust and vacuum thoroughly to remove spiders, webs, and egg sacs (dispose of the vacuum bag in a container outdoors).
- Outdoors, use a water hose or broom to regularly destroy any webs that are constructed on or around the house. Spiders often move elsewhere when their webs are regularly destroyed.
- Use a rolled up newspaper or fly swatter to kill individual spiders.
- Use sticky traps or glueboards to entangle spiders.

Insecticides

There are many labeled pesticides for spider control. Some are labeled for homeowner use, while others are labeled only for the licensed, certified pesticide applicator.

Individual exposed spiders can be killed with a nonresidual aerosol spray, but any egg sacs will be unaffected. It generally is best to use a vacuum cleaner so that the egg sac is removed from the premises.

For web builders, insecticide treatments should be applied so that the chemical contacts spiders in their webs. A nonrepellent

insecticidal dust is useful to treat webs because the dust clings to the silk and is likely to be contacted by the spider. Residual dusts can be applied to voids and inaccessible areas where spiders may hide.

A wettable powder or microencapsulated “slow-release” formulation of a residual insecticide can be applied to corners, behind and under furniture, behind stored items, etc. to control active hunting spiders. This approach also is useful to prevent establishment of new spiders. Aerosol flushing agents such as

pyrethrins, though ineffective by themselves in providing long-term control, can cause spiders to move about so that they contact treated surfaces.

Residual liquid sprays can be applied to the outside perimeter of the home (including under eaves, patios, and decks; behind window shutters), cracks and crevices of decorative molding, undisturbed corners, and other suspected spider harborages. Residual liquid sprays applied to the outside perimeter of the home are not very effective for species that display web-sitting behavior.

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